



BEAT

COLO. SPRINGS,
COLORADO

JULY 1980

The Way It Was . . . Bound Brook

LIFE AT BOUND BROOK

Back in the old days Bound Brook, N.J., was the site of the NBC Voice of America transmitters. During WW2 it was used as the OW1 site. Before that it was the original site of WJZ, New York City.

The Voice of America at that time had only studios in Washington. Programming was fed to the different outlets by telephone, NBC at Bound Brook, CBS at Wayne, N.J. and Brentwood, Long Island, Gen. Electric at Schenectady, N.Y. Crosley at Cincinnati, Ohio and the West Coast NBC outlet at Delano, Cal.

At Bound Brook the complex consisted of six 50 KW transmitters, control room, maintenance, riggers, two curtain antennas up about 400 ft. and numerous rhombics. A chief engineer, an assistant, and about 8 engineers manned the operation.

Transmission usually started in the morning on 21 MC and dropped progressively as the day went on to 17, 15, 11, 9 and 6 MC. Capacitance consisted of large flat copper plates, which were raised or lowered by motors. Inductance consisted of long copper rods which were inserted into the circuit and tightened with wrenches. All circuits were protected with grounding sticks.

Each frequency change meant a complete change and tune-up from the crystal stage thru the intermediate stages, and the final. The final consisted of two 5658's. One engineer would have to jump in a car and run out in the field to tune the antenna for the particular frequency. Frequency accuracy was checked each month by a frequency checking station at Rocky Point, Long Island. When more accurate equipment at Bound Brook became available, this service was discontinued.

When that "one time in a lifetime" sunspot cycle was taking place back in the 50's it was possible to hear your own transmission going around the world and hearing it a micro-second later again. (Now, now, guys and gals)!

Things could get hectic at times, such as the Hungarian Revolution and the Suez invasion. Rapid calls from Washington for frequency changes, antenna changes, etc., kept you hopping.

Electrical weather were the days all hands felt they really earned their pay. The riggers would come thru the building on a perfectly clear day and say, "something's coming in about 2 hours." They could feel and see the "spitting" antennas.

The transmitters had to be tuned and put on the air regardless of the weather overhead. Even with gloves, ground sticks, etc., you often wondered what might happen when lifting and inserting that long copper inductance. Occasionally a bolt would come down the transmission line and hit the sulphur condensers and melt them. Then you just had to wait until the compartment cleared. Later, air condensers eliminated this problem.

Every summer a vacation relief engineer was sent out from New York. When one of these bolts would hit the final, there would be sparks flying and a sustained arc on the transmitter. The first time this happened to anyone new, including yours truly, there was a fast exit out the side door.

Despite all this no one was ever hurt on the job by electrical weather. Believe it or not, our watchman fell over a cord while waxing the floor and broke his leg. He died a few days later from a clot formed by the injury.

The VOA finally built a complex in Greenville, N.C. When they got the "bugs" out of it the East Coast stations were closed.

It was a real pleasure to work at Bound Brook. Fond memories follow me of the real old-timers from the early days of radio who worked there. I'll never forget those days.

Respectfully submitted,
Frank WB@PAJ

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(* Two-year board terms began November 1979)

ZERO BEAT is published monthly in the interest of the members of the Pikes Peak Radio Amateur Association, Colorado Springs, CO. Permission is given to reprint articles or excerpts provided credit is given. Deadline for submission of articles to be published is the third week of the month. Classified accepted anytime.

The Pikes Peak Radio Amateur Association meets on the second Wednesday of every month at Sabin Jr. High School, 3605 N. Carefree Circle at 7:30 p.m. and all amateurs and interested persons are cordially invited.

Editor: Jim Colvin NØAVY, 4610 Topaz, Colorado Springs, Colorado, 80918 598-7704

JUNE MINUTES

The June meeting of the Pikes Peak Radio Amateur Association was called to order at 7:30 PM on June 11, 1980, by President Don Lohse KBØKQ. All members and guests present introduced themselves.

An excellent program was given by Bob Shriner WAØUZO of Circuit Board Specialists, on new innovations in Amateur Radio coming in the '80s. Bob brought several examples of kits available from his company, and discussed articles up and coming in QST Magazine for hams interested in building equipment.

A long break was held following Bob's program.

At 8:56 PM the meeting was again brought to order; the May minutes were approved. Dave WBØSDW gave the treasurers report. We have a balance of \$856.17 + \$77.55 in Servcom.

The Field Day Report was given by Dave NØDV — all committees progressing very well. Dave needs a 6 meter ss hand rig — all other stations are provided for. The use permit from the National Forest Service was passed around. Field Day is June 28 and 29 on the Rampart Range Rd.

Lee KBØHW announced that communications will be needed July 13 for a Sailing Regatta in Monument.

Don KBØKQ was contacted by the Gazette Telegraph 10 Mile Run. They will need 10 hams for communications. Discussion followed this announcement regarding the notification being very late. Smitty WBØLTV moved that the event be turned down due to short notice. The motion was voted down. Seven members volunteered to do the event. Don will accept the event, with the request that we are notified in advance in the future.

Ham communications for Colorado Springs Spring Spree were discussed. The event will take place June 21st and 22nd in Monument Valley Park. Communications will involve HTs, with operators wandering thru the festivities.

Refreshments for July — no volunteers.

Dave WØMBZ announced that the 16/76 repeater is down for repairs.

The deadline for articles for Ø Beat is June 21st.

Bob KØDJ announced that the freq. 3.985-3.995 have been restricted to emergency traffic for Grand Island, Neb. only.

NØDV Dave reminded us of the VHF contest coming up this weekend.

Dave WBØSDW suggests we try a transmitter hunt on a weeknite during June. Contact Dave if you are interested.

Ray AAØL announced that the Central States VHF Conference will be held in Colorado Springs August 15, 16 & 17th. Contact Ray for more information. Door prizes were dispersed by Dave NØDV. The meeting was adjourned by Don at 9:58 PM.

Respectfully Submitted,
Lorna WDØBTF

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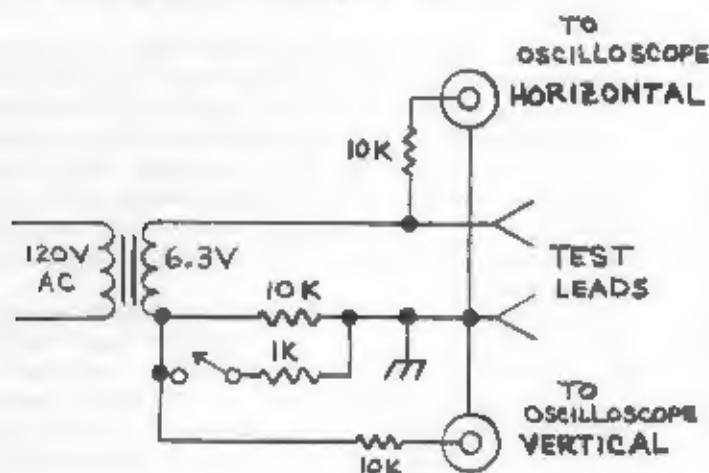
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MICROPHONES

DIODE/TRANSISTOR TESTING USING AN OSCILLOSCOPE

Last month I discussed the basic oscilloscope, how it works and what it's used for. This month we'll look at an easy to build and easy to use in or out-of-circuit diode and transistor tester. This tester when used with an oscilloscope becomes a low voltage curve tracer displaying a single curve normally referred to as a breakdown curve.

The circuit diagram shown below is all there is to it. Parts are available from local suppliers.



The resistances are set up so 100 microamps through the diode gives about 1 volt of vertical deflection. The horizontal scale is a direct voltage across the device under test. A switch is provided to increase the current through the diode by 10. When testing high power devices such as power transistors this feature will provide a better scale (in this case 1 MA = 1 volt vertical).

To use the tester simply connect the vertical output of the tester to the vertical input of the scope with shielded cable (audio cable is good enough) and do likewise with the horizontal connections. Connect the test leads across the diode junction or across the emitter to base or base to collector junctions of a transistor and look at the curve on the oscilloscope, it should look like one of the four top patterns.

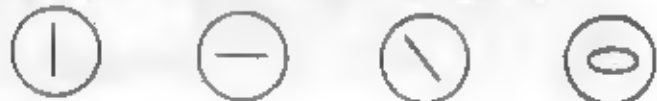
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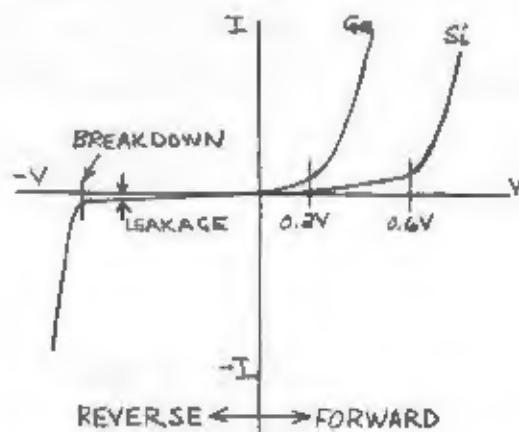
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If the device under test is still in the circuit you must take into consideration resistance and capacitance of the circuit also effecting the display. This will take a little getting used to but can give additional information on other circuit parts. This checker is very useful for checking low voltage (<10V) zener diodes. Leakage currents can be measured if the oscilloscope is calibrated.

When first connecting the tester to an oscilloscope, put the oscilloscope in the X-Y mode and apply power. At this point you should have a horizontal trace on the screen. Adjust the horizontal gain on the scope for full screen deflection or 8 divisions if the scope has a graticule. 8 divisions gives about 2 volts per division calibration. Next short the two test leads and adjust the vertical gain for full screen or 10 divisions. The vertical scale should be about 100 microamps per division. Now connect the leads to a good diode and watch what happens. With a little use you will be able to check all sorts of diode junctions.

Surplus loaded printed circuits are found in abundance at swap fests and you now have a fast way of determining not only whether a diode or transistor is good but also what type it is, germanium or silicon.

Happy Tracing,
Ray AA0L



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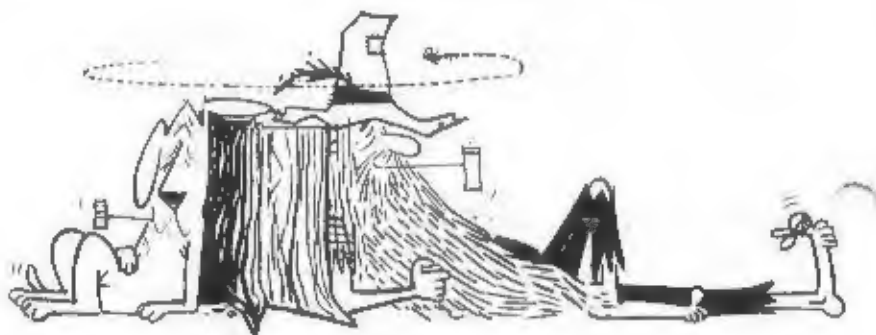
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this summer!!



VHF CONVENTION

The Central States VHF Society will hold its 14th Annual
Convention in Colorado Springs, CO at the Holiday Inn North
August 15, 16 and 17.

The Central States Society was formed to promote
communications on the bands above 50 MHz in the central
region of the United States. The annual convention is an
opportunity for VHFers to get together, talk, play tapes, show
slides, measure antenna gain and make receive noise figure
checks, but most of all attend seminars on the most recent
work in the VHF/UHF spectrum. Though the convention is
held in the central U.S. each year, membership is not
restricted. Last year, F9FT, TI2NA, YV5ZZ attended just to
name a few.

This year's program will feature several talks on equipment
design above 1 GHz. The program gets under way Friday at 9
AM and ends Sunday about Noon. Antenna gain measuring
will be held on Friday Afternoon. Antennas will be measured
on 144, 432 and 1296 MHz. Converter noise figure
measurements will be conducted Friday evening starting at 8
PM and cover 50 to 2304 MHz. I.F. output of the converters
must be at 28 MHz. Saturday night is the big banquet followed
by prize drawings.

The conference is an excellent place and time for amateurs
with a serious interest in VHF/UHF long distance
communication to get together. If you are interested in
learning about meteor scatter, tropo scatter, ducting,
moonbounce, satellites, etc., this conference is for you. One
area that is not covered is FM and repeaters as they are not
intended for long haul communications.

The convention will be held at the Holiday Inn at I-25 and
Fillmore in Colorado Springs, Colorado August 15, 16 and 17.
The cost to attend the convention is \$10.00. The banquet
is \$15.00 which also includes a continental breakfast on
Sunday Morning. If you desire to join the Society, dues are
\$5.00/year.

Further information on the conference may be obtained by
writing to: Doug Moloney WBØMHP, 3817 S. Vaquero Cir.,
Colorado Springs, CO 80918.

On behalf of the CSVHF Society and the convention crew
here in Colorado Springs we invite interested VHFers to attend
the conference and join the society.

Ray Uberecken AAØL
President CSVHFS

Doug Moloney WBØMHP
Conference Chairman

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BOARD MINUTES

The meeting was called to order at 7:55 PM at the home of RAY AAØL and Diane Uberecken, 9635 Thoroughbred Lane, Black Forest on June 2, 1980. The meeting followed a delicious bar-b-que dinner served by Diane.

Those present at the dinner and meeting were Don KBØKQ, and Joyce KAØGJN Lohse; Dave Riese, WBØSDW; Dave Vierling NØDV; Frank Freiler WBØPAJ; Lorna WDØBTF, Dick WBØPNX, Kim WBØUUW, and Susie WDØFXR Schlueter; Ray AAØL and Diane Uberecken; and Jim NØAVY and Charleen WBØYOB Colvin.

The first article of business discussed was to look into a schedule of events that the club regularly helps with and consider possibly setting priorities as to what the club can best serve. The club is getting asked for more and more services and possibly may not be able to serve every organization that asks.

Field Day is quite well organized and should be a well-run fun event thanks to Dave Vierling NØDV. He has committees, stations, and equipment ready for June 28-29.

The nominee for the Hammy Award was named and will receive it at the June meeting. The newly formed Mountain Amateur Radio Club of Woodland Park will be the recipient.

Bob Shriner, Circuit Board Specialists, will be the speaker at the June 11 meeting. It was decided that a Ø Bear and cover letter to thank Bob will be sent.

Ray Uberecken, AAØL will make an announcement at the club meeting about the Central States VHF Society conference here at the Holiday Inn North August 15-17, 1980.

The next board meeting will be at Jim NØAVY and Charleen WBØYOB Colvins, 4610 Topaz Drive on July 7, 1980 at 7:30 PM.

There being no further business the meeting was adjourned. Again many thanks to Diane and Ray for the fine meal and hospitality. Board meetings are open you know.

Respectfully Submitted,
Charleen WBØYOB

de the President

The summer season of the year, with its long days that encourage activity is upon us. However, summer usually has just the opposite reaction on most hams. We seem to get off the local air and leave it to foreign calls seeing how far 52 will reach from Pikes Peak. I can understand this, but I also wish that we would try and keep up the level of activity a bit. It's important that we keep ourselves sharp and ready for any number of different possible situations.

The weather station is now complete, and ready in an emergency. We may also get called on for some community service project with very little notice (i.e. 10 Mile Run) and we must be ready. The 10 Mile Run was a good example — 3 days notice for 10 hams to keep an eye on the course and 2500 runners. We did a good job (many thanks to the Telstar repeater group for the use of 87/27) and the officials were very pleased with our help.

All the people who worked on the 10 Mile Run deserve a job well done, as do the people who worked at Springspre, the big civic open air fair. The organizers at Springspre just couldn't say enough how much they appreciated our help and expertise. All this public service is made possible by the skills and devotion of the many people who are concerned about the amateur image and upholding the tradition of technical and operational excellence. The club is lucky to have many such.

I would like to make a special comment about one of the articles in this month's issue. Frank Freiler WBØPAJ, has written an article about the old days of radio at the NBC station at Bound Brook. I hope you like it as much as I do. Sometimes many of the people who have been hams for many years forget that those of us who are new to the hobby don't know or haven't heard many of the old stories. I hope that those of you who do know them will write them up for Zero Beat. The history of the amateur service must be told, if the new people are to appreciate, enjoy and preserve it.

73's
Don

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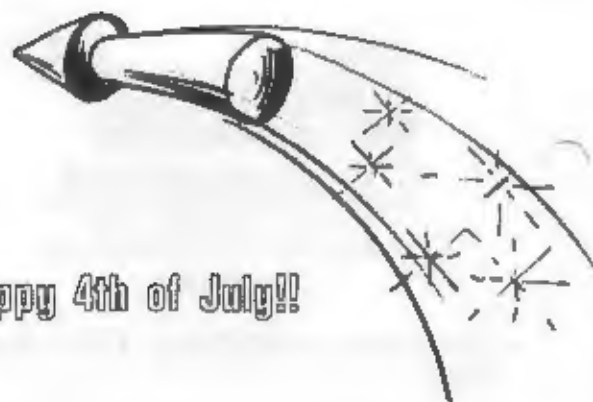
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MEETING NOTICE

The July meeting of the Pikes Peak Radio Amateur Association will be held at 7:30 p.m. on July 9, 1980 at Sabin Jr. High School. The program will be given by Lt. Col. Rick Shute of the United States Air Force and will deal with over the horizon radar (like the woodpecker). All members and interested persons are invited to attend.



Happy 4th of July!!



Ø BEAT



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Jim Colvin NØAVY
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